Upper San Gabriel Valley Municipal Water District

Water Use Efficiency 2002

Olive Sports Park Model Water Efficient Landscape Project Proposal

Proposition 13 Urban Water Conservation Program

February 26, 2002







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	= Assemblyman Ed Chavez
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Consolidated Water Use Efficiency 2002 PSP Proposal Part One: A. Project Information Form

1.	Applying for (select one):	(a) Prop 13 Urban Water Conservation Capital Outlay Grant							
				gricultural Water Conservation asibility Study Grant					
			(c) DWR Wate	er Use Efficiency Project					
2.	Principal applicant (Organi affiliation):		San Gabriel V	alley Municipal Water District					
3.	Project Title:	Olive Sports Park	Model Water	Efficient Landscape Project					
4.	Person authorized to sign	Name, title	Timothy J	ochem, General Manager					
	and submit proposal:	Mailing address	11310 Val	ley Blvd. El Monte, CA 91731					
		Telephone	(626) 443-2	2297					
		Fax	(626) 443-0617						
		E-mail	Christy@usgvmwd.org						
	Contact person	Name, title	Elena Layugan, Conservation Coordinator						
	(if different):	Mailing address	11310 Valley Blvd. El Monte, CA 91731 (626) 443-2298 (626) 443-0617						
		Telephone							
		Fax							
		E-mail	Elena@usgvmwd.org						
6.	Funds requested (dollar am	ount):		\$56,278					
7.	Applicant funds pledged (d	ollar amount):		\$38,660					
8.	Total project costs (dollar a	mount):		\$94,938					
9.	Estimated total quantifiable	1 0							
	Percentage of benefit to be	accrued by applicant	:	75%					
Pe	ercentage of benefit to be acc	crued by CALFED o	r others:	25%					

Consolidated Water Use Efficiency 2002 PSP Proposal Part One:

A. Project Information Form (continued)

10. Estimated annual amount of water	to be saved (acre-fe	eet):	8 acre-feet						
Estimated total amount of water to	Estimated total amount of water to be saved (acre-feet):								
Over years	20 years								
Estimated benefits to be realized in quality, instream flow, other:	n terms of water		mmmmmmk						
11. Duration of project (month/year to	month/year):		4/02 – 7/03						
12. State Assembly District where the p	project is to be cond	lucted:	57						
13. State Senate District where the proj	ect is to be conduct	ed:	24						
14. Congressional district(s) where the	project is to be con	ducted:	31						
15. County where the project is to be co	onducted:		Los Angeles County						
16. Date most recent Urban Water Man Department of Water Resources:	nagement Plan subm	nitted to the	December 2000						
17. Type of applicant (select one): Prop 13 Urban Grants and Prop 13 Agricultural Feasibility Study Gra	☐ (c) ci nts: ☐ (d) jo ☐ (e) ot _ inclu	ounty ty and coun pint power a her political ding public							
DWR WUE Projects: the above en (a) through (f) or:	☐ (h) no☐ (i) tri☐ (j) ur☐ (k) st	niversity ate agency	ganization						
18. Project focus:		deral agency gricultural rban	y						

Consolidated Water Use Efficiency 2002 PSP Proposal Part One:

A. Project Information Form (continued)

19. Project type (select one): Prop 13 Urban Grant or Prop 13 Agricultural Feasibility Study Grant capital outlay project related to:	 ☒ (a) implementation of Urban Best Management Practices ☐ (b) implementation of Agricultural Efficient Water Management Practices ☐ (c) implementation of Quantifiable Objectives (include QO number(s)
	(d) other (specify)
DWR WUE Project related to:	 ☐ (e) implementation of Urban Best Management Practices ☐ (f) implementation of Agricultural Efficient Water Management Practices ☐ (g) implementation of Quantifiable Objectives (include QO number(s)) ☐ (h) innovative projects (initial investigation of new technologies, methodologies, approaches, or institutional frameworks) ☐ (i) research or pilot projects ☐ (j) education or public information programs ☐ (k) other (specify)
20. Do the actions in this proposal involve physical changes in land use, or potential future changes in land use?	☐ (a) yes ☐ (b) no ☐ (b) no ☐ (c) If yes, the applicant must complete the CALFED PSP Land Use Checklist found at http://calfed.water.ca.gov/environmental_docs.html and submit it with the proposal.

Consolidated Water Use Efficiency 2002 PSP Proposal Part One B. Signature Page

	By signing below, the official declares the fe	ollowing:
	The truthfulness of all representations in the	proposal;
applica	The individual signing the form is authorized ant; and	d to submit the proposal on behalf of the
	The individual signing the form read and un entiality section and waives any and all rights all on behalf of the applicant.	
		Timothy C. Jochem, General Manager
Signat	ure	Name and title
		February 26, 2002
		Date

PROPOSAL PART TWO

Project Summary

Location

Olive Middle School Sports Park, 13701 E. Olive Baldwin Park, CA 91706 A street map and aerial map of the project site have been included as Attachment A.

Nature of Project

Large landscape water efficiency retrofit project.

Goals and Objectives

The goals of this project are to reduce irrecoverable water losses, improve water quality, and attain environmental benefits through water use efficiency measures.

Methods

Using Best Available Technology (BAT), the old irrigation system will by replaced with a new state-of-the-art irrigation system that will substantially improve water use efficiency. Also, water efficient landscape training will be provided to maintenance personnel.

Procedures

The project retrofit will include new irrigation piping, a sub-meter to measure irrigation consumption, a booster pump to increase water pressure, automated controller clocks, an evapotranspiration tracking (Et0) system, moisture sensing, rain shut-off, addition of soil amendments, leveling out irregularities in fields, and seeding for a new turf.

One of the BATs for irrigation installations includes Et0 tracking which consists of daily communication with local weather stations that reports daily evapotranspiration rates. This information is then input into the irrigation system's controllers, which automatically adjusts the amount of water to be applied to the fields. These daily automatic adjustments based on current weather conditions will allow the system to conserve water in the most efficient manner.

Expected Outcomes

An annual savings of 8 acre feet of water and mitigation of urban runoff while producing a far healthier landscape.

Costs and Benefits

- = Total project cost will be \$94,938.
- = Produce a tangible water savings of approximately 2,606,808 gallons each year.

Project Summary (continued)

- = Reduce urban runoff thereby decreasing erosion and pollutant loading incurred along the San Gabriel River.
- = Decreased strain on the local water system, thereby decreasing the need for imported water and the need for electricity to pump that water.
- = Provide a working demonstration of landscaping improvements that can be achieved while saving water.
- = Serve as a model of public and private entities partnering together to conserve local water supplies while enhancing the community and assisting youth.
- = Draw recognition as a multi-partnership conservation effort that brings together and actively involves: public agencies, businesses, non-profit organizations, and the community at large.

A. Scope of Work: Relevance and Importance

Nature of Project

The Olive Sports Park Model Water Efficient Landscape Project is a large landscape water efficiency retrofit project.

Scope of Project

The scope of the project entails replacing the old, manually operated, leaking irrigation system with an efficient system that will incorporate state-of-the-art irrigation technology and efficient water management practices.

Project Objectives

- a.) Improve water supply reliability by significantly reducing the current volume of water wasted.
- b.) Enhance water quality conditions by reducing the volume of fertilizers and additives currently used to overcompensate for inadequate landscape management practices.
- c.) Improve environmental conditions through substantial reductions in urban runoff that contribute to increased TDS loads in the nearby San Gabriel River.
- d.) Provide a highly visible demonstration project that educates the public about water efficient landscape management practices and wastewater prevention.

Critical Water Issues

The project site is located in Baldwin Park, which is beleaguered with groundwater quality problems and is listed on the EPA's National Priorities Final List (NPL) as well as on the CERCLIS Hazardous Waste Sites National Priorities List (NPL) and the EPA Brownfields List of Potential Sites.

This project is part of the Upper District's ongoing effort to address conservation, environmental and water quality issues by alleviating runoff and TDS loads that currently make their way into the nearby San Gabriel River.

The project site is located in Southern California, which as a region must try to balance water demands that typically exceed local supplies.

Explanation of Need for this Project

Volunteers installed the current irrigation system over fifteen years ago. The aged system is in considerable disrepair and leaks constantly, not only wasting water but also creating ideal conditions for excessive runoff and vector breeding grounds. Since the system is manually operated, inconsistent watering practices result in the landscape either being flooded or completely dried out, causing very poor soil and turf conditions. Fertilizers and other additives are used in large amounts to overcompensate for poor landscape conditions.

A new automated irrigation system would drastically increase irrigation efficiency, achieving a reduced demand on the local water supply while maintaining a healthy and viable water efficient landscape. Efficient water use would result in a healthier landscape while eradicating over- and under-watering practices and the usage of fertilizer and other nitrates that negatively impact local groundwater quality.

Consistency with Regional Water Management Plans and Other Resource Plans

The objectives of the Olive Sports Park Model Water Efficient Landscape Project are consistent with DWR's Model Water Efficient Landscape Ordinance, which reflects the State's policy, AB 325, promoting the conservation and efficient use of water in landscape. In addition, the objectives of the project support the CALFED ROD goals of ecosystem restoration, increased water supply reliability and improved water quality.

The project is aligned with the following water demand management measures outlined in the California Water Code Division 6, Part 2.6 Urban Water Management Planning Chapter 3, Article 2, Section 10631 (f)(1): (E) Large landscape conservation programs and incentives, (G) Public information programs, and (I) Conservation programs for commercial, industrial, and institutional accounts. These water demand measures are also reflected in the California Urban Conservation Council's following BMPs: BMP 5 Large Landscape Conservation Programs and Incentives, BMP 7 Public Information Programs and BMP 9 Conservation Programs for Commercial, Industrial and Institutional (CII) Accounts

This project is also in keeping with SB 60, a legislative mandate that instructs MWD to place increased emphasis on conservation, and MWD's Strategic Plan recognizing the increased focus on conservation with language about "stewardship of resources."

B. Scope of Work: Technical/Scientific Merit, Feasibility, Monitoring and Assessment

1. Methods, Procedures, and Facilities

Irrigation specialists were retained to conduct an analysis of the project site's water consumption and projected savings. That analysis is provided in Attachment B.

The new irrigation, using BAT, will alleviate current manual irrigation practices thus decreasing the current operation and maintenance to upkeep the fields. Both Little League and school maintenance personnel will be provided training on utilizing the new low-maintenance automated system.

2. Task List and Schedule

Task Description	Start Date	End Date	Duration	Projected Costs	Quarterly Expenditure Projection							
3rd Quarter (Jul Sept. 02)												
Bid Stage												
Bid Process	07/01/02	08/01/02	1 Month	\$0								
Bids Due	08/01/02	-	> 1 Day	\$0								
Bid Review and Award	08/02/02	08/09/02	1 Week	\$0								
Construction												
Site Clearance and Grub	08/12/02	08/19/02	1 Week	\$6,411								
System Installation & Grading	08/20/02	09/03/02	2 Weeks	\$52,889								
Soil Preparation, Fine Grade	09/04/02	09/10/02	1 Week	\$28,216								
Seeding	09/10/02	09/11/02	1 Day	\$6,772	\$94,288							
	4th Quart	er (Oct D	Dec. 02)									
Records												
Record Drawings	12/06/02	12/13/02	1 Week	\$650	\$650							
Project Completion												
Growth Establishment Period	09/12/02	12/05/02	3 Months	\$0								
	1st Quarte	er (Jan M	Iar. 03)									
Fields Ready for Use	02/01/03	-	-	\$0								

3. Monitoring and Assessment

Once installation is completed, billing data for the site will be collected and reviewed annually for a period of 12 months to compare real and projected water savings. A final report will compare the year of post-retrofit data with the pre-retrofit analysis and estimated consumption. A sub-meter will be installed that will measure water consumption specifically for the project site.

Photos of the site will also be taken at various stages of the retrofit to compare the pre- and post-retrofit health of the landscape.

4. Preliminary Plans and Specifications and Certification Statements

The specifications for the irrigation system and turf installation are found in Attachment C while plans and detail drawings for both the irrigation system and landscaping are offered in Attachment D. The basis for this project's CEQA exemption is presented in Attachment E.

C. Qualifications of the Applicants and Cooperators

Ms. Elena Layugan, Conservation Coordinator for the Upper District, is designated as the Upper District's Project Manager for the Olive Sports Park Model Water Efficient Landscape Project. Ms. Layugan's resume is found in Attachment F.

Stetson Engineers is retained as the District's Engineering Firm and is designated as the Project Advisor. They are responsible for developing the specifications, site plans, designs, bid process, record of plans/drawings, and coordination of all sub-contracted work. Mr. Jeff Helsley is the Project Manager at Stetson Engineers for this project and his resume is also found in Attachment F.

The Water Management Group (irrigation specialists) was retained to conduct the pre-retrofit analysis of water consumption and projected savings. RHA Landscape Architects Planners was retained by Stetson Engineers to assist with the design of the new irrigation system and overlying turf installation specifications.

A. Benefits and Costs

1. Budget Breakdown and Justification

Item/Task	Cost	Justification
a. Land Purchase/Easement	\$0	-
b. Planning/Design/Engineering	\$0	-
c. Materials/Installation	\$42,889	System installation and grading @ .38 per square foot * 112,865 sq. ft.
Materials/Installation (continued)	\$6,772	Seeding @ .06 per square foot * 112,865 sq. ft.
d. Structures	\$0	-
e. Equipment Purchases/Rentals	\$10,000	One (1) Booster pump. Necessary to ensure adequate water pressure needed for consistent irrigation patterns.
f. Environmental Mitigation/Enhancement	\$0	-
g. Construction	\$6,411	Site clearance and grub @ .05 per square foot * 128,215 sq. ft.
Construction (continued)	\$28,216	Soil preparation and fine grade @ .25 per square foot * 112,865 sq. ft.
h. Project/Legal/License Fees	\$650	Fees for Filing Record of Drawings
i. Contingency	\$0	-
j. Other	\$0	-
TOTAL	\$94,938	

2. Cost-Sharing

Funding Source	Committed Funds
Upper San Gabriel Valley Municipal Water District	\$15,000
Miller Brewing Company Community Grant	\$10,000
MWDSC - Conservation Program Agreement	\$6,160
MWDSC - Community Partnering Program	\$7,500
	\$38,660

3. Benefit Summary and Breakdown

a) Quantifiable Project Outcomes and Benefits

Indicate how each quantified outcome and benefit will be shared among the project's beneficiaries. For example, if an outcome will result in an avoided cost benefit for the applicant and/or the project partners, this should be identified as an applicant benefit. Identify and delineate quantified outcomes and benefits expected to directly or indirectly contribute to CALFED goals.

Produces tangible water savings of approximately 8 acre feet each year. Overall, the project is expected to yield a long-term water conservation benefit of 40%. This water savings contributes directly to CALFED goals of:

- i) Ecosystem restoration by reducing urban runoff and nitrates that current irrigation practices contribute to;
- ii) Improved water quality by reducing the TDS volume in the local river as well as reducing nitrates that percolate into our groundwater supply;
- iii) Increased water supply reliability through better management of local water usage.

b) Non-Quantifiable Benefits

i) Benefits an Economically Disadvantaged Community

The median income for Baldwin Park residents during the year 2000 was \$33,029, which was substantially lower than the California median household income of \$46,499 for the same time period. In 1990, the per capita personal income (PCPI) of California was \$21,889 while the PCPI was \$8,858 for Baldwin Park: less than half the state average. These economic indicators translate into far lower property taxes and decreased funding availability for implementing infrastructure repairs or improvements such as this proposed project.

The City of Baldwin Park is an economically disadvantaged area that lacks sufficient park and greenspace to offset the urban encroachment. The quality of life is reduced by the lack of natural surrounding. This project will provide a healthy, lush landscape that is water efficient and labor efficient, which would benefit the entire community.

ii) Meets the needs of various demographic segments of the community

a) Senior Citizens

Senior citizens will benefit from having a local greenway instead of an area that is often left brown and dried-up. The project will enhance the environment and be aesthetically pleasing.

b) At-Risk Youth

The majority of youth involved in the Baldwin Park Little League, as well as youth from the local community, are deemed to be at-risk youth. This project

provides them a healthier landscape that is more inviting to play on, boosting player morale and increasing pride in the local neighborhood. A park with a healthy turf/playing field means better cushion and impact absorption when people fall or tumble therefore the risk and types of potential injuries are somewhat reduced.

c) Sports Groups

By implementing a best available technology water efficient irrigation system, the Little League will benefit from reduced physical maintenance while increasing the beauty and integrity of the landscape.

d) General Public

The project will provide all Sports Park visitors an opportunity to see cutting edge technology put to work for a less advantaged community and raise their awareness about the effectiveness of water efficient landscaping.

iii) Improves and Enhances Local Facilities

- a) Increases the health and viability of the landscape and provides a consistently green landscaped area instead of an unhealthy landscape that fluctuates between being a flooded muddy area and a dried-up dead brown field.
- b) Reduces vector breeding grounds caused by stagnant pools of water from inefficient currently leaking irrigation pipes.
- c) Offers local youth a solid example of community involvement in environmental issues and emphasize that adults are concerned and willing to be actively involved in solving such issues.
- d) Serves as a model of public and private entities partnering together to conserve local water supplies while enhancing the community and assisting youth.
- e) Draws recognition as a multi-partnership conservation effort that brings together and actively involves public agencies, businesses, non-profit organizations, and the community at large.
- iv) Conserves energy and water while reducing some of the negative impacts on the local ecosystem.
 - a) Reduces urban runoff thereby decreasing erosion and vegetation damage incurred along the San Gabriel River.
 - b) Reduces nitrate and pollutant loads deposited by runoff into the San Gabriel River.
 - c) Water savings translates into a decreased strain on the local water system, which helps to decrease the need for imported water and the need for electricity to pump that water.

d) Provide visitors a highly visible, working demonstration of landscaping improvements that can be achieved while saving water.

4. Assessment of Costs and Benefits

Pre-Retrofit Average Yearly Water Consumption	6,191,169	Gallons Per Year (GPY)
Post Retrofit Estimated Yearly Water Use	3,584,361	GPY
Estimated Annual Savings	2,606,808	GPY
% Reduction	42%	
Hundred Cubic Feet	3,485	CCF Per Year
Acre Feet	8.00	AF Per Year
Subtotal	8	AF Per Year
Project Lifespan	20	Years
Cumulative Total Savings	160	AF
Project Cost	\$94,938	100%
Total Applicant Portion	\$38,660	40.721%
Total CALFED portion	\$56,278	59.279%
Cost per AF	\$593	
Applicant Cost	\$242	Per AF
CALFED Cost	\$352	Per AF
Value to customer @ \$1.50 per CCF (est)*	\$5,228	per Year
Marginal cost of water (imported)	\$431.00	Per AF
Value to water agency	\$3,448.00	Per Year
Present Value of saved water	\$39,548.29	D @ 6% for 20 years
Agency investment	\$38,660.00	
Internal Rate of Return	6%	I @ 6%, 20 years
		D = Discounted
		I = Invested

E. Outreach, Community Involvement and Acceptance

The Baldwin Park Little League is comprised of local citizenry and played a strong role in getting the project started.

The project was brought forth as an agendized item for discussion at several of the Upper District's Conservation Committee meetings and Board of Directors meetings, which allowed for any members of the public to participate in discussing the matter and providing input.

The Olive Sports Park Model Water Efficient Landscape Project has received enthusiastic support from local community groups such as the Baldwin Park National Little League, legislators such as Assemblyman Ed Chavez and environmental groups such as the Sierra Club (Attachment G). The project also has the support of private businesses such as Miller Brewing Company, which has committed \$10,000 to this project.

a) Estimated Number of Users Expected to Receive Training, Employment, or Other Social or Economic Benefits From the Project.

Approximately 800 youth, involved in the Baldwin Park National Little League, make use of the Sports Park. There are also a substantial number of adults and other youths that support/observe the Little League games and practices bringing the number of Little League-related Sports Park users closer to 1,300 persons annually.

Local residents also utilize the Sports Park as a local green area for family gatherings, amateur sports and other outdoor recreational activity. It is estimated that such usage generates another 1,000 persons using the Sports Park facilities on an annual basis.

Cumulatively, this translates into approximately 2,300 people visiting/utilizing the Sports Park annually.

b) Population Density of the Service Area of the Project

Baldwin Park is 6.9 sq. miles (17.084 sq. kilometers) and has an estimated population of 72,029. Census data indicates the population density to be approximately 10,765 people per sq. mile. The City of Baldwin Park is now identified as one of the more rapidly developing cities in the San Gabriel Valley.

c) Demographic Characteristics of Intended Users

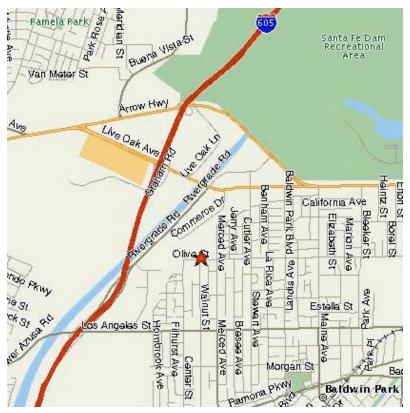
The area has been beleaguered by gang violence and the local youth are deemed to be at high-risk for dropping out of school and/or becoming involved in illegal activity. Based on the crime index data for the area, approximately 2,504 crimes are committed annually within the area.

Renter-occupied housing comprises 39% of the housing stock in Baldwin Park. Only 51 % of Baldwin Park residents are high school graduates and only 10 % of the population hold a bachelor's degree.

ATTACHMENT A

Street Map and Aerial Map of the Project Site

Street Map of Area Surrounding Project Location



Aerial Map of Area Surrounding Project Location



ATTACHMENT B

Pre-Retrofit Water Consumption and Estimated Savings Analysis

THE WATER MANAGEMENT GROUP

2200 BUSINESS WAY SUITE 100, RIVERSIDE CA 92501 PHONE; 909-788-8497 FAX: 909-788-8538

IRRIGATION MASTER PLANNING - IRRIGATION DESIGN -- GIS BASED WATER MANAGEMENT -- GPS

Re: Projected landscape irrigation water consumption and water savings for the Olive School baseball diamonds in Baldwin Park, California.

The following is a brief summary, in which we present the projected landscape irrigation water consumption for the Olive School baseball diamonds irrigation system rehabilitation project in Baldwin Park, California.

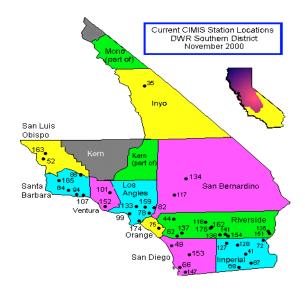
EVAPOTRANSPIRATION

CIMIS stations in the project vicinity indicate yearly evapotranspiration values of:

Station # and location	Yearly
	-
Station #78: Pomona	13.57 *
Station #82: Claremont	54.67
Station #133: Glendale	42.87
Station# 159: Monrovia	49.43
Station#: Glendora	52.8**
Station #Pasadena	52.2**
Station #Los Angeles	50.0**

^{*}incomplete data set for the year

Climatic data obtained from CIMIS and NWS (National Weather Service) websites.



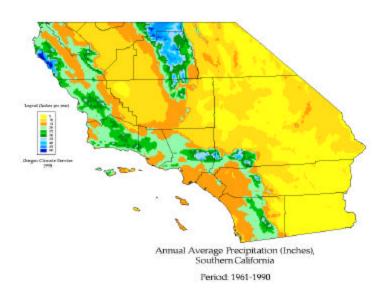
^{**} Normal year ETO values, no weather station number identified

Page 2 USWGVMWD Water consumption estimate

The nearest weather station to the project location is the Monrovia weather station #159 with approximately 50 inches per year consumption.

Nearby stations in Pasadena, Glendale, Pomona, Glendora and Claremont indicate similar values.

RAINFALL



MONTEBELLO, CALIFORNIA (045790)

Period of Record Monthly Climate Summary

Period of Record: 1/1/1979 to 7/31/2000

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec A	Annual
Average Max. Temperature (F)	69.4	71.1	72.6	77.9	78.8	83.6	88.6	89.7	87.8	82.6	75.4	70.9	79.0
Average Min. Temperature (F)	47.9	49.0	50.5	53.5	57.1	60.6	64.3	65.1	63.6	58.3	51.4	47.2	55.7
Average Total Precipitation (in.)	4.14	4.18	3.23	1.02	0.29	0.09	0.02	0.03	0.24	0.34	1.20	1.98	16.75

SAN GABRIEL FIRE DEPT, CALIFORNIA (047785) Period of Record Monthly Climate Summary

Period of Record: 5/ 1/1939 to 7/31/2000

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec A	ınnual
Average Max. Temperature (F)	68.9	70.4	71.6	75.3	77.7	82.5	88.9	89.8	88.2	82.5	75.3	70.0	78.4
Average Min. Temperature (F)	41.4	43.4	45.6	48.9	53.1	56.8	60.7	61.2	59.1	53.5	45.8	41.6	50.9
Average Total Precipitation (in.)	3.80	3.84	3.17	1.30	0.28	0.11	0.02	0.08	0.37	0.48	1.77	2.42	17.62

Western Regional Climate Center, wrcc@dri.edu
Page 3
USWGVMWD
Water consumption estimate

IRRIGATED AREA

The size of the irrigated area of all four baseball fields: 163,800sft = 3.8 ac

PLANT PALLETE

The selected mix of turf will consist of:

60% Bermuda grass

30% Rye grass

10% Blue grass

100% Total turf mix

The proposed type of turf mix falls into the warm season grass category, considered as a moderate water user, with a water consumption KC coefficient of 0.6.

The project planning budget form for the Upper San Gabriel Valley Water District's "Project Applicant Water Budget Short Form" of the "Landscape Plancheck Resource Manual for Planners" indicates that the city maximum applied water allowance (MAWA) water budget is 26 gallons/sft/year.

ESTIMATED WATER USE

The total estimated water use for the city over 163,800sft of irrigated area is: 26 x 163,800 = 4,258,800 gallons/year, 13ac-ft/year.

MONTH	ET0	ER	Kc	AREA	IEFF	CONV.F	MWWA
JANUARY	2.46	4.14	0.6	163,800	0.625	0.62	-2340
FEBRUARY	1.84	4.18	0.6	163,800	0.625	0.62	-65126
MARCH	1.73	3.23	0.6	163,800	0.625	0.62	-20279
APRIL	3.57	1.02	0.6	163,800	0.625	0.62	288387
MAY	4.6	0.29	0.6	163,800	0.625	0.62	431507
JUNE	5.34	0.09	0.6	163,800	0.625	0.62	515352
JULY	6.52	0.02	0.6	163,800	0.625	0.62	634489
AUGUST	7	0.03	0.6	163,800	0.625	0.62	680701
SEPTEMBER	6.43	0.24	0.6	163,800	0.625	0.62	612846
OCTOBER	4.67	0.34	0.6	163,800	0.625	0.62	435407
NOVEMBER	2.75	1.2	0.6	163,800	0.625	0.62	197912
DECEMBER	2.5	1.98	0.6	163,800	0.625	0.62	127912
TOTAL:	49.41	16.75	0.6	163,800	0.625	0.62	3,837,354

ETO = Evapotranspiration **ER** = effective rainfall **Kc** = crop coefficient **IEFF**= irrigation efficiency **EWA** = estimated water use

Page 4
USWGVMWD
Water consumption estimate

The landscape water management ordinance allows 26 gallons per square foot; that amounts to 163,800*26 gallons = 4,258,800 gallons.

Calculations were based on the Upper San Gabriel Valley Municipal Water District's publication "Best Management Practices Design Guidelines for Water & Resource Conserving Landscapes".

Since the irrigation systems of the baseball diamonds belong to a collective water supply system, not separated from the school, water consumption values include domestic use at the school. Following the rehabilitation of the system, the baseball diamond water consumption will be metered separately and actual water consumption targets will be enforced.

Actual water use, potential savings

The data obtained from the supplying water district indicates that the school used 17,602 units*, or 41 ac-ft in the year 2000, the lowest amount during the five year period reviewed. (See attached water meter summary for the past five years), (1 consumption unit = 100ccf).

The highest figure in the past five years was in 1999 when 27,219 units, or 62 ac-ft was used by the school. The average water consumption for the past five years is or 55 ac-ft.

Domestic use of school consumption is estimated to be 20% of the 55ac-ft or 11 ac-ft/year. Of the approximate 44 ac-ft that was used by landscape irrigation, the existing school landscape irrigation used 25 ac-ft, the baseball fields used 19ac-ft.

By upgrading the existing baseball field irrigation system and by applying appropriate water management practices, this volume can be reduced to approximately 11 ac-ft, an 8 ac-ft or approximately 40% savings.

Los Angeles area CIMIS Data

Monthly Weather Data for Station # 78 Pomona in Region -LAB- Los Angeles Basin

			SOLA	R VAPOR	. A	IR TE	MP.	RE	L. H	UM.	DEW	WIND	WIND AVE
DATE	ETo	PRECIP	RAD	AVE	MAX	MIN	AVE	MAX	MIN	AVE	PT	AVE	RUN SOIL
	in.	in. L	y/dy	mBars	Fah	renhe	it		%-		F	mph	mi F
DEC 99		0.00	253	6.5	71	39	53	82	23	48	33	1.6	40 56
JAN 00		0.00	228	9.9	68	44	54	92	43	68	43	1.4	33 56
FEB 00		1.38	239	10.7	65	44	54	96	55	77	46	1.6	38 57
MAR 00		2.95	424	10.5	69	44	56	97	43	70	45	2.6	63 61
APR 00		1.10	528	12.5	76	48	61	98	42	69	50	3.1	75 68
MAY 00		0.20	580	15.0	80	53	66	97	45	69	55	3.3	79 74
JUN 00		0.16	683	17.0	86	57	70	98	41	67	59	3.2	78 79
JUL 00		0.08	625	16.5	82	53	68	98	46	71	58	2.8	67 82
AUG 00	4.44	0.02	561	18.5	88	60	74	97	42	66	61	3.7	90 75
SEP 00	4.61	0.23	457	16.5	85	57	70	96	42	68	58	3.3	80 71
OCT 00	2.28	1.48	289	14.9	73	52	61	99	55	80	55	2.9	69 65
NOV 00	2.24	0.02	292	8.6	69	41	54	91	34	62	40	2.8	67 56
	TOTALS A	ND AVERA	GES -										
	13.57	7.61	420	12.9	76	49	61	95	42	68	50	2.7	64 66

Monthly Weather Data for Station # 82 Claremont in Region -LAB- Los Angeles Basin

			SOLAF	R VAPOR	. A	IR TE	MP.	RE	L. H	UM.	DEW	WIND	WIND AVE
DATE	ETo	PRECIP	RAD	AVE	MAX	MIN	AVE	MAX	MIN	AVE	PT	AVE	RUN SOIL
	in.	in. L	y/dy	mBars	Fah	renhe	it		%-		F	mph	mi F
DEC 99	2.51	0.00	297	4.4	69	44	56	47	19	31	23	3.0	72 53
JAN 00	2.07	0.00	246	7.4	66	45	55	66	36	50	34	2.9	69 53
FEB 00	1.99	7.17	255	8.4	63	45	53	77	47	63	39	3.4	82 55
MAR 00	4.15	2.68	447	8.2	68	45	56	74	37	56	39	3.9	93 57
APR 00	5.21	3.84	540	10.3	75	50	62	76	39	57	45	3.8	91 62
MAY 00	6.16	1.71	580	12.9	79	54	66	76	42	59	50	3.8	92 67
JUN 00	7.25	0.62	702	14.5	86	58	71	76	37	56	54	4.0	95 70
JUL 00	7.81	0.00	701	14.2	89	59	73	72	34	52	54	3.8	92 71
AUG 00	7.07	0.01	580	15.1	91	65	77	69	34	50	55	3.7	90 74
SEP 00	5.23	0.35	465	13.0	87	61	73	69	34	51	51	3.2	76 70
OCT 00	2.68	1.88	311	12.0	72	53	61	80	48	65	49	2.2	52 66
NOV 00	2.52	0.13	257	6.1	68	44	55	61	27	42	31	2.9	69 57
	TOTALS A	ND AVERA	GES -										
	54.67	18.39	449	10.6	76	52	63	70	36	52	44	3.4	81 63

Monthly Weather Data for Station # 99 Santa Monica in Region -LAB- Los Angeles Basin

			SOLAF	R VAPOR	. A	IR TE	MP.	RE	L. H	UM.	DEW	WIND	WIND AVE
DATE	ETo	PRECIP	RAD	AVE	MAX	MIN	AVE	MAX	MIN	AVE	PT	AVE	RUN SOIL
	in.	in. L	y/dy	mBars	Fah	renhe	it		%-		F	mph	mi F
DEC 99	2.99	0.08	1278	 5.9	70	51	59	58	21	36	 30	3.9	94 55
JAN 00	2.05	1.09	242	9.9	66	50	58	80	45	62	43	3.4	81 57
FEB 00	1.88	5.94	260	10.8	64	48	56	86	57	73	46	3.8	91 58
MAR 00	3.73	2.30	424	10.6	65	49	56	89	52	70	46	4.2	101 60
APR 00	5.12	1.48	605	12.7	68	51	60	89	59	74	51	4.2	100 66
MAY 00	5.76	0.07	639	14.4	70	54	63	89	61	75	54	4.2	102 69
JUN 00	6.37	0.11	708	17.1	73	59	66	92	66	79	59	4.4	104 72
JUL 00	6.68	0.13	710	17.2	74	59	66	91	65	78	59	4.2	100 73
AUG 00	6.22	0.12	638	18.4	77	62	69	89	64	77	61	4.0	96 73
SEP 00	4.82	0.07	532	16.5	77	60	68	89	57	72	58	3.9	93 71
OCT 00	2.92	1.55	362	14.5	70	55	62	90	60	77	54	3.7	89 66
NOV 00	2.90	0.02	351	8.3	68	48	58	76	36	53	39	3.9	94 58
	TOTALS A	ND AVERA	GES -										
	51.44	12.96	479	13.0	70	54	62	85	54	69	50	4.0	95 65

Monthly Weather Data for Station #133 Glendale in Region -LAB- Los Angeles Basin

			SOLAR	NAPOR	. A	IR TE	MP.	RE	L. H	UM.	DEW	WIND	WIND AVE
DATE	ETO P	RECIP	RAD	AVE	MAX	MIN	AVE	MAX	MIN	AVE	PT	AVE	RUN SOIL
	in.	in. L	y/dy	mBars	Fah	renhe	it		%-		F	mph	mi F
DEC 99	2.54	0.00	217	4.8	68	44	55	55	16	34	25	2.9	69 53
JAN 00	1.73	0.02	202	9.0	66	45	54	83	40	62	39	2.6	63 53
FEB 00	1.41	1.13	210	9.9	62	44	53	93	55	76	44	2.7	64 54
MAR 00	3.20	2.47	350	9.4	66	45	55	90	44	66	42	3.2	77 56
APR 00	4.11	2.72	450	11.5	72	49	60	90	46	68	48	3.2	76 62
MAY 00	4.67	0.11	476	14.0	75	53	64	92	51	70	52	3.0	71 67
JUN 00	5.12	0.06	522	16.3	80	57	67	93	50	72	57	3.0	71 72
JUL 00	5.50	0.08	528	16.2	82	57	68	92	49	69	57	3.1	74 73
AUG 00	5.46	0.19	492	16.6	84	60	72	87	44	64	58	3.0	72 75
SEP 00	4.34	0.46	419	14.1	82	58	68	85	42	62	53	2.8	67 71
OCT 00	2.34	1.46	279	13.4	70	52	60	95	55	77	52	2.6	62 65
NOV 00	2.45	0.00	277	7.0	67	43	54	74	29	51	34	2.7	66 56
	TOTALS AND	AVERA	GES -										
	42.87	8.71	369	11.8	73	50	61	86	43	64	47	2.9	69 63

Monthly Weather Data for Station #159 Monrovia in Region -LAB- Los Angeles Basin

			SOLAF	R VAPOR	. A	IR TE	MP.	RE	L. H	UM.	DEW	WIND	WIND AVE
DATE	ETO	PRECIP	RAD	AVE	MAX	MIN	AVE	MAX	MIN	AVE	PT	AVE	RUN SOIL
	in.	in. L	y/dy	mBars	Fah	renhe	it		%-		F	mph	mi F
DEC 99	2.46	0.31	270	5.7	71	44	56	61	21	39	29	2.8	68 55
JAN 00	1.84	1.03	239	9.5	68	46	56	81	38	61	42	2.5	59 57
FEB 00	1.73	7.84	245	10.2	65	46	55	90	50	70	44	2.5	60 59
MAR 00	3.57	2.83	385	9.8	70	47	57	88	39	62	43	3.1	74 62
APR 00	4.60	2.86	483	11.9	76	51	63	88	40	63	49	3.2	77 67
MAY 00	5.34	0.30	516	14.3	79	56	66	87	46	65	53	3.2	77 71
JUN 00	6.52	0.00	614	16.2	85	59	71	87	41	63	57	3.5	83 75
JUL 00	7.00	0.00	630	16.5	87	59	72	88	38	62	58	3.3	79 75
AUG 00	6.43	0.00	531	17.4	89	62	75	84	37	60	59	3.1	74 76
SEP 00	4.67	0.37	439	14.9	86	58	71	83	37	59	55	2.7	65 71
OCT 00	2.75	1.22	304	13.5	73	54	62	89	49	70	52	2.7	65 65
NOV 00	2.50	0.00	304	7.7	70	44	55	77	30	52	37	2.6	62 56
T	OTALS A	ND AVERA	GES -										
	49.43	16.77	414	12.3	77	52	63	84	39	60	48	2.9	70 66

NORMAL YEAR Eto (Inches) TABLE FOR LOS ANGELES COUNTY

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
2.1	2.8	3.7	4.7		-	BURB.		5.4	4	2.6	1.9	51.6
1.9	2.5	3.6	4.9			GLEN 7.3	-	5.7	4.1	2.6	1.9	52.8
1.6	2.1	3.4	4.6			GORM 7.7		5.9	3.6	2.4	1.1	52.4
2.1	3	4.6	5.9		-	_	ASTER 9.8		4.6	2.8	1.7	71.0
2.2	2.5	3.4	3.8				BEAC 4.9		3.4	2.4	1.9	44.1
2.2	2.6	3.7	4.7		-		ANGEL 5.9		3.9	2.6	1.9	50.0
1.9	2.6	4.1	5.1			PALM 9.9		6.7	4.1	2.6	1.7	64.6
2.1	2.6	3.7	4.7			PASA 7.1		5.6	4.1	2.6	1.9	52.2
1.7	2.4	3.7	4.7		-		BLOSS	-	4	2.6	1.6	59.9

Page 8 USWGVMWD Water consumption estimate

Water Meter Summary – 5-Year Comparison

Month		2000		1999		1998		1997	1996		
	100ccf	Gallons									
January	1,457	1,089,912	723	540,842	494	369,538	69	51,616	935	699,429	
February	62	46,379	193	144,374	185	138,390	589	440,603	644	481,745	
March	572	427,886	661	494,462	486	363,553	1,867	1,396,613	295	220,675	
April	1,400	1,047,273	515	385,247	591	442,099	2,123	1,588,114	1,275	953,766	
May	1,330	994,909	1,006	752,540	1,999	1,495,356	3,241	2,424,437	2,533	1,894,816	
June	3,381	2,529,164	2,380	1,780,364	2,250	1,683,117	2,695	2,016,000	2,704	2,022,733	
July	2,076	1,552,956	3,099	2,318,213	3,634	2,718,421	3,385	2,535,156	3,921	2,933,112	
August	3,446	2,577,787	3,897	2,915,159	5,076	3,798,608	2,375	1,776,624	3,801	2,843,346	
September	1,981	1,481,891	6,702	5,013,445	3,203	2,396,011	2,582	1,931,470	3,393	2,538,140	
October	1,006	752,540	5,089	3,806,837	2,963	2,216,478	2,645	1,978,598	2,375	1,776,624	
November	327	244,613	2,027	1,516,301	4,968	3,716,322	1,424	1,065,226	991	741,320	
December	564	421,901	927	693,444	598	447,335	262	195,990	1,099	822,109	
Total	17,602	13,167,211	27,219	20,361,228	26,449	19,785,227	23,257	17,397,445	23,996	17,950,256	

ATTACHMENT C

Irrigation System and Turf Installation Specifications

ATTACHMENT D

Irrigation System and Landscaping Plans and Detail Drawings

ATTACHMENT E

CEQA Exemption



The Sports Park Project falls within two of the CEQA categorical exemptions (14 Cal. Code. Regs. §15354).

Replacement or Reconstruction

Title 14, Section 15302 of the California Code of Regulations, exempts projects involving the replacement or reconstruction of existing structures or facilities, provided the new structure is located on the same site as the replaced structure and has substantially the same purpose and capacity.

As interpreted by case law, the literal size of the new project is irrelevant to the issue of whether the purpose and capacity of the project is substantially the same; capacity refers to the productive capacity of the new project. (See Dehne v. County of Santa Clara (1981) 115 Cal.App.3d 827.) The courts have held that a proposed use consistent with an existing use in a particular area does not constitute an unusual circumstance. (See City of Pasadena v. State (1993) 14 Cal.App.4th 810, 824.)

The proposed irrigation system, though more water-efficient than the current system, is a use that is consistent with the prior use of the land. Indeed, its environmentally sensitive features will have less impact on the land than the current system and thereby qualifies under the Title 14, Section 15302 Replacement or Reconstruction category of exemptions.

Minor Alterations to Land

Title 14, Section 15304 of the California Code of Regulations exempts projects that entail only minor alterations to the condition of land, water, or vegetation, provided the alterations do not involve the removal of mature, scenic trees or involve grading greater than ten percent.

The Sports Park Project does not involve grading greater than ten percent (10%) and will only require minor trenching and/or excavation, therefore, it also meets the criteria for this categorical exemption as well.



Title 14. California Code of Regulations
Chapter 3. Guidelines for Implementation of the
California Environmental Quality Act

Article 19. Categorical Exemptions

15300. Categorical Exemptions

Section 21084 of the Public Resources Code requires these Guidelines to include a list of classes of projects which have been determined not to have a significant effect on the environment and which shall, therefore, be exempt from the provisions of CEQA.

In response to that mandate, the Secretary for Resources has found that the following classes of projects listed in this article do not have a significant effect on the environment, and they are declared to be categorically exempt from the requirement for the preparation of environmental documents.

Note: Authority cited: Sections 21083 and 21087, Public Resources Code; Reference: Section 21084, Public Resources Code.

15302. Replacement or Reconstruction

Class 2 consists of replacement or reconstruction of existing structures and facilities where the new structure will be located on the same site as the structure replaced and will have substantially the same purpose and capacity as the structure replaced, including but not limited to:

- (a) Replacement or reconstruction of existing schools and hospitals to provide earthquake resistant structures which do not increase capacity more than 50 percent.
- (b) Replacement of a commercial structure with a new structure of substantially the same size, purpose, and capacity.
- (c) Replacement or reconstruction of existing utility systems and/or facilities involving negligible or no expansion of capacity.
- (d) Conversion of overhead electric utility distribution system facilities to underground including connection to existing overhead electric utility distribution lines where the surface is restored to the condition existing prior to the undergrounding.

Note: Authority cited: Sections 21083 and 21087, Public Resources Code; Reference: Section 21084, Public Resources Code.



The California Environmental Quality Act

Title 14. California Code of Regulations
Chapter 3. Guidelines for Implementation of the
California Environmental Quality Act

Article 19. Categorical Exemptions (cont.)

15304. Minor Alterations to Land

Class 4 consists of minor public or private alterations in the condition of land, water, and/or vegetation which do not involve removal of healthy, mature, scenic trees except for forestry or agricultural purposes. Examples include, but are not limited to:

- (a) Grading on land with a slope of less than 10 percent, except that grading shall not be exempt in a waterway, in any wetland, in an officially designated (by federal, state, or local government action) scenic area, or in officially mapped areas of severe geologic hazard such as an Alquist-Priolo Earthquake Fault Zone or within an official Seismic Hazard Zone, as delineated by the State Geologist.
- (b) New gardening or landscaping, including the replacement of existing conventional landscaping with water efficient or fire resistant landscaping.
- (c) Filling of earth into previously excavated land with material compatible with the natural features of the site;
- (d) Minor alterations in land, water, and vegetation on existing officially designated wildlife management areas or fish production facilities which result in improvement of habitat for fish and wildlife resources or greater fish production;
- (e) Minor temporary use of land having negligible or no permanent effects on the environment, including carnivals, sales of Christmas trees, etc;
- (f) Minor trenching and backfilling where the surface is restored;
- (g) Maintenance dredging where the spoil is deposited in a spoil area authorized by all applicable state and federal regulatory agencies;
- (h) The creation of bicycle lanes on existing rights-of-way.
- (i) Fuel management activities within 30 feet of structures to reduce the volume of flammable vegetation, provided that the activities will not result in the taking of endangered, rare, or threatened plant or animal species or significant erosion and sedimentation of surface waters. This exemption shall apply to fuel management activities within 100 feet of a structure if the public agency having fire protection responsibility for the area has determined that 100 feet of fuel clearance is required due to extra hazardous fire conditions.

Note: Authority cited: Sections 21083 and 21087, Public Resources Code; Reference: Section 21084, Public Resources Code.

ATTACHMENT F

Resumes

- = Ms. Elena Layugan, USGVMWD
- = Mr. Jeff Helsley, Stetson Engineers

ELENA M. LAYUGAN

Upper San Gabriel Valley Municipal Water District

EDUCATION

University of Southern California, Los Angeles, Masters of Public Administration, 1991 University of Southern California – Los Angeles, Masters of Planning, 1990 Loyola Marymount University, Los Angeles BA, Urban Studies, 1988 Kansai Gaidai University - Hirakata, Japan, Study Abroad - Fall Semester, 1986

WORK EXPERIENCE

Upper San Gabriel Valley Municipal Water District - El Monte, CA

Conservation Coordinator September, 1992 to Present

- = Develop, implement, manage and evaluate district-wide conservation and education programs.
- = Model, justify and administer fiscal budget for conservation and education programs.
- = Grant writing and coordination.
- = Engage in committees that actively formulate, research and determine feasible technologies, methodologies, standards and practices in relation to water efficiency.
- = Formulate conservation policies and programs and provide recommendations to General Manager and Board of Directors. Provide input and guidance for conservation policies and legislation at federal, state and local levels.
- = Interact directly with elected officials, general manager, public agencies, utilities, private businesses, non-profit organizations and the general public.
- = Function as voting representative on the California Urban Water Conservation Council.
- = Write and administer legal agreements and grant proposals. Author, present and publish findings and articles regarding conservation programs and approaches.
- = Supervise and direct staff, consultants and vendors in administering various programs and events. Coordinate and oversee volunteer events with as many as several hundred participants of all ages.
- = Conduct presentations and workshops for diverse audiences. Respond to public concerns regarding water quality, reclamation and conservation questions and issues and create diverse informational materials and programs for public outreach efforts
- = Designed and maintain agency's initial Internet website.

Los Angeles Department of Water and Power - Los Angeles, CA

Consultant - Suggestion Plan Office and Employees' Association 1991 – 1992 Administrative Intern - Employees' Association 1990 - 1991

- = Conduct presentations and workshops for diverse audiences.
- = Processed employee suggestions: summarized suggestions/evaluations, input data, tabulated awards, and developed promotional strategies.
- = Assisted with developing fiscal budget requests and justifications.
- = Implemented data reorganization and spatial reassessment projects.
- = Researched and compiled historical data concerning the Employees' Association.

JEFFREY D. HELSLEY

Stetson Engineers

Education:

M.S. Environmental Engineering, 1983 University of Southern California (USC) Los Angeles, California

B.S. Civil Engineering, 1981 California State University, Los Angeles (CSULA) Los Angeles, California

Licenses:

California Civil Engineer No. 039599, 1985

Professional Affiliations:

Member - American Society of Civil Engineers, ASCE
Member - Central Basin Water Association
Secretary - Hydraulic and Water Resources Management
Technical Group - American Society of Civil Engineers, Los Angeles Section

Experience:

Mr. Helsley's experience includes employment with the Los Angeles County Department of Public Works in the Hydraulic/Water Conservation Division. As a Supervising Civil Engineer I in the Planning Unit, he was responsible for studies to develop improvements to the County's injection barriers to prevent seawater intrusion, and studies of groundwater recharge optimization.

Mr. Helsley was also formerly the District Engineer and Assistant General Manager of the Water Replenishment District of Southern California, where he was responsible for the development and implementation of programs to enhance groundwater recharge, improve groundwater basin management, and protect groundwater quality.

At Stetson Engineers Inc. Mr. Helsley is responsible for numerous studies and design projects. Mr. Helsley has been project manager for water rights quantification and valuation studies, alternative water supply studies, water resource management studies, and groundwater recharge feasibility studies.

Some of the major projects Mr. Helsley has participated in include:

- 1. Los Angeles County Department of Public Works (LACDPW) Alamitos Barrier Project Seawater Barrier
 - a. Deficiency/Feasibility Study
 - b. Injection Well Design
 - c. Injection Well Construction
- 2. LACDPW Dominguez Gap Barrier Seawater Barrier, Deficiency/Feasibility Study
- 3. LACDPW West Coast Barrier Project Seawater Barrier
 - a. Geophysical Exploration
 - b. Deficiency/Feasibility Study
- 4. Landfill Gas Mitigation measures
- 5. County Solid Waste Management Plan
- 6. Antelope Valley Groundwater Recharge Study
- 7. Montebello Forebay Groundwater Recharge Study
- 8. National Pollution Discharge Elimination System (NPDES) Permit Modifications
- 9. Injection Well Maintenance Study
- 10. Adjudication of the Mojave River Groundwater Basins
- 11. Identification of available water supplies for land development in San Bernardino County
- 12. Quantification and Valuation of Water Rights at various locations in Los Angeles, San Bernardino and Sacramento Counties

ATTACHMENT G

Letters of Support for Project from:

= Baldwin Park National Little League = Assemblyman Ed Chavez = Sierra Club